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ABSTRACT

This paper comments on and assesses the power of the research of six studies presented at the American Educational Research Association symposium, "Linking Behavioral Research and Administrative Science." Three of the studies (Jordan, Koehler and Ismail, Bredo) are classified in terms of organizations as formal structures, and as instruments of production. Two of the studies (Pierce, Porter) use imagery from the systems model. The final paper (Greenfield) sees organizations as reflections of complex, poorly understood interaction among individuals. (Author/DW)

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LINKING BEHAVIOURAL RESEARCH AND ADMINISTRATIVE SCIENCE: A CRITIQUE[1]

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A science of organization and of administration rests fundamentally upon what we believe organizations to be. Even as our adherence to elemental and presumably self-evident truths about man shapes our understanding and study of people, (March, 1972), so do our assumptions about organizations determine what we regard as knowledge about them and how we seek to acquire that knowledge. In trying to understand reality, we require concepts or categories which enable us to make sense of that which William James called "the blooming welter" of phenomena around us. As aids for understanding, we use larger frameworks and models--theories if you like--which provide us with reservoirs of ideas for understanding the world around us. These frameworks or models are images of reality which we carry in our minds and which we use as templates to stamp meaning onto the world around us. For Plato and philosophers of the naturalistic school, these images or forms lay behind reality so that man perceived them only imperfectly--as shadows. In the view I am outlining today--and it is a view of increasing importance in science (Kuhn, 1970) and philosophy (Eldridge, 1971)--the images we use to understand the world around us are man-made and socially maintained. These views have recently come to have some prominence in sociology (Filmer, et al., 1972, Dawe, 1970; Deutscher 1973), and have also appeared in critiques of education (Young 1971) and organizational (Greenfield, 1974) studies.

Three Models of Organization

The models which have dominated research and theory about organizations stem from images of the productive unit and the social system (Mayntz, 1964).

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In the image arising from the productive unit, organizations are thought to have a formal structure and a technology which yields products appropriate to predetermined goals. In the systems image, organizations are thought of as organisms which respond and adapt to their environments. In an emergent view arising in opposition to both of these accepted positions, organizations may be seen as garbage cans (Cohen, March, and Olsen, 1972) or as invented social reality (Greenfield, 1973). In this opposing model, organizations are uncertain, non-uniform, hard to predict, and specific to the particular times and places in which they exist. In commenting on the studies presented in this session, I will sort and assess them according to the model which in my view served to inform and direct the research. The assessments will be in terms of the power of the research within the chosen model. In conclusion I will make some observations on the power of the models themselves.

Three of the six studies appear to me to stem from the model which sees organizations as formal structures and as instruments of production. These three are the studies by Hanes and Jordan, Koehler and Ismail, and Bredo. Two of the studies--those by Pierce and Porter--use imagery from the systems model. The Greenfield paper takes the approach which sees organizations as reflections of complex, poorly understood interaction among individuals.

Structural models of organization. Hanes and Jordan rely most clearly and heavily upon the model which conceives organizations as productive units. They ask what structural elements of schools should administrators manipulate in order to improve their productivity. They find an answer (p. 13) in the "centrality of teacher-related variables." They believe that "increased investment in teachers" will "enhance the objectivity of administrative

decision-making" (p. 15) and enable administrators to produce a "substantial impact on the educational achievement, however measured, of the nation's children" (p. 16). Such sweeping conclusions should be evaluated in light of the research methodologies used in the studies reported by Hanes and Jordan. Without exception these studies used correlational and ex post facto designs. Such designs which are of course, subject to severe threats to reliability and fail to establish causal connections. The limitations of such methodology is well-known, yet the temptation to read causality into correlations is apparently irresistable. I suggest that the reason we yield all too frequently to this temptation lies in the model chosen to represent the organization. The image of the organization as a productive unit requires that there be a causal connection between input and output. Apparently, we have become so accustomed to the image of organization as a productive unit that we use it to lend meaning to the findings instead of using the findings to evaluate the model. If we are to rely on the findings reported by Hanes and Jordan we must first test them experimentally if they are to be designated as objective truth. My own suspicion and the weight of the available research evidence (Spady, 1973) is that improvements in the quality of education will require more than raising the qualifications of teachers and the salaries paid them. This course has already been followed in Canada without obvious impact on the quality of education there. Something else is needed if we are to command educational productivity through input and structural changes.

Koehler and Ismail explore the relationship between organizational size and economic efficiency. Their review of research finds that such a relationship is contingent at best and clearly open to question in the case of schools.

The findings of their study lead them to describe as a "popular mythin American educational folklore" the view that school districts become top-heavy as they increase in size. Those relationships which are found apparently depend on exogenous organizational variables. Koehler and Ismail's study and those they review also depend upon ex post facto designs though some of them report evidence from longitudinal studies. Given the tendency for such studies to yield spurious and happenstance relationships, it is significant that the weight of evidence from the studies supports the lack of any relationship between structural and productive elements of schools. In this case, the lack of significant findings is itself significant since it calls in question the utility of the basic model in which the research was cast.

Bredo has studied teaching teams by examinining their position in the social and physical structure of the school and by looking for the effects of context and structure upon presumed indicators of productivity such as morale and collegial influence. Bredo's work has, as well, an orientation to observation not seen the other two studies in this group in that he looks at teaching teams in natural settings and describes their structure and operation with a minimum of assumptions. He does, however, remain true to the structural model in that he assumes a one-way direction of influence from structure to process to outcome. He chooses as well to ignore individual responses and interactions by dealing with averages as a characterization of the teams. Despite these limitations, the research methodology of the study is sound and he uses it not only to test the model but also as a tool for more open-ended investigation. The methodology is used to test the model while the model

itself serves as an heuristic device rather than as an incontestable set of assumptions. Used in this fashion, the model is severely damaged as a result of the findings. What emerges as a picture of teaching teams stands sharply at variance with the original model which specified how structural and contextual conditions might influence the productivity of the organization. Instead of the neat dimensions of the production model, we are left with a picture of teaching teams as entities with loose internal structures and uncertain connections to the larger setting. Communication and interaction are the strongest elements which remain from the original model, yet these bear relationships to structural and contextual properties which are tenuous at best. The teams appear as "loose associations of similarly inclined individuals" rather than as units fitting clearly and functionally in a well-defined production process.

Studies using systems models. The studies by Pierce and Porter approach their problems from the systems perspective. In this model, organizations are seen as organisms which respond and adapt to their environments. Survival and adaptation to improve organizational operation are major concerns of the systems model. Although systems models in one form or another are held in high regard by many organization theorists, it is curious to note how little research actually uses systems concepts. It is apparently easier to quote systems theory than to apply it in research. Certainly the two studies I have classified in this group use markedly different methodologies. Of the two, Pierce's study is most clearly and consciously cast in a system model. Porter's study may be identified with the systems model because it relies upon systems concepts to interpret the findings of the study.

Both of the studies examine the perceptions of individuals in organizations. In so doing, they assume that the perceptions and attitudes of selected groups in an organization are dependent upon the reciprocating mechanisms of adjustment in the organizations of which they are part. To study the organization as a whole, therefore, it is not necessary to look at all groups or individuals because knowledge about selected groups provides information about the organization as a whole.

The Pierce study examines how a school system responded to major organizational change when the system participated in the Experimental Schools Project of the National Institute of Education. The research asks whether the "character" of schools changed as a result of the project. The design of the study required administrators and other professional staff in the school system to respond to a complex questionnaire through structured interviews. Members of other groups were not interviewed; those persons who were interviewed could respond only through items structured to define the domain of the system. While the concept of domain is a promising concept from systems theory, this study raises the question of whether we should regard a domain as changed when data about the change rest only on the views of two closely related groups in the system. While systems theory may rest confident that organizations by definition reach a dynamic equilibrium, skeptics will suspect that students, parents, and other significant groups might have different views of the changes realized in the schools and their domains. The methodology Pierce adopted yields highly complex data; the findings of the study are equally complex but the weight of them suggests that the system has successfully identified and adapted to the change. I

found it difficult to determine, however, whether this conclusion--so congenial to the encompassing systems model--was based in the data themselves or in the assumptions of the model which generated the data.

The Porter study surveyed teachers with an instrument composed of items measuring attitudes and personality. Through successive analyses, a factor emerges which defines the militant teacher. As in most factor analytic studies, Porter makes little effort to validate the factor. After several runs with different items, orthogonal and oblique rotations, reflection of factors, and factoring of the factors, one of six second-order factors "was readily identified as a 'teacher militancy' factor complex" (p. 7). The criterion for identifying one of a multitude of factor solution as right rests with the researcher. One solution is intuitively judged to yield an "interpretable" result and an "explanation" of the variance in the original items. The weakness of such explanations is not that they are intuitive, but that they are highly artifical constructs, removed from particular situations, and non-substantive. The important point here is whether the definition of teacher militancy has meaning outside the procedures which created it. Minimally, we might ask for the size of the factors identifed, since this information is not provided in the paper. More fundamentally, we may ask what the factor complex represents in the social system to which Porter extrapolates his findings. To be meaningful and useful factors must make more than mathematical sense: they must represent forces and behaviors in the social system.

Not doubting the validity of the factors, Porter proceeds to develop their implications for relations between teachers and administrators. These

implications rest on the reciprocating notions of the systems model. Militancy is seen as a real force; it is equated with professionalism and accepted as justifying change in education. Administrators must meet militancy in teachers by introducing change; moreover they must be perceived by militant teachers as favouring change. How administrators can compel the perceptions of militant teachers is not made clear. The point I am making here is that the teacher militancy factor is essentially never validated. Instead, the factor serves as a basis for making moral judgements about how administrators should deal with militant teachers as judged from a systems perspective. I am not against moral judgements entering research; in fact, more of them should enter it than now do. But we should be careful to identify the basis of the moral judgements. We should be at pains to identify moral judgements which stem from the researcher or from the organizational model he is using; and we must distinguish these from the moral judgements made by people themselves who are acting within specific situations. Without making this distinction, we are likely to confuse "ought" for "is" and to use research not as a means for understanding organizations, but as a platform for arguing how to improve them.

A study using an interactional model. For want of an agreed upon term, and because alternate names are subject to misinterpretation, let us call the third model the interactional approach. Only one of the six studies falls in this category. Greenfield (1975) recognizes organization as resting upon process--human interaction in specific situations. The methodology appropriate to this model requires observing process directly through some encounter in a real situation. In this approach, concepts must be found which fit the data rather than data found to fit the concepts. Social process is accepted as

the starting point for research; analysis proceeds as concepts and hypotheses can be found to make sense of what is observed about process in a specific situation. The result in this study is a plausible explanation of how candidates for administrative positions are socialized to those positions. What happens or what people say happens is the basis for validating explanations of the process. What emerges from this analysis is not tested hypotheses but a picture of what might be happening in a complex process and a map for understanding how and why it is happening.

The Power of the Models

The structural and systems models rest upon important assumptions about what organizations are and how they work. The interactionist model assumes we know little about these matters and that understanding of them will come by working from the data about organizational process back to explanatory concepts. Conversely, the structural and systems models supply the concepts for understanding organizations and direct attention to data appropriate to them.

In the research I have examined, it appeared that the first two models were most useful when the researchers used them heuristically rather than prescriptively. In these cases the models were sufficiently damaged by the evidence they generated to suggest that alternate models for understanding organizations are needed. In studies of administration in education, we have long been taught to see schools as factories, as bureaucracies, as cybernetic systems, or as adapting organisms. Our faith in these images have frequently blinded us to the fact that the isomorphisms between schools and these images are extremely poor. As a result, research which springs from these models

too easily shifts from testing the fit between image and reality to advocacy of reforms in schools to make the fit better. We have tended to forget that research models should identify what is,not prescribe what ought to be. The interactionist model which directs attention to specifics of organizational process and to its human dimensions seems well suited to those who wish to explore organizations with a minimum of assumptions about them. Those who believe we need to rethink what schools are and what is going on in them would place us all very much in their debt if they could supply alternate images of schools which are "true to the data" rather than loyal to existing theories and concepts. Some authors have begun such a search (Bereiter, 1973; Pinkus, 1974; Ryan and Greenfield, 1975), but we need even greater recognition of and attention to the problem.

REFERENCES

Bereiter, C. Must We Educate? Englewood Cliffs, N.J.: Prentice-Hall, 1973.

Bredo, E. "Collaborative Relationships on Teaching Teams: Implications for Collegial Influence and Team Morale." Paper read at the American Educational Research Association, Washington, April, 1975.

Cohen, M.D., March, J.G., and Olsen, J.P. "A Garbage Can Model of Organizational Choice," Administrative Science Quarterly, (17) 1: 1-25, 1972.

Dawe, A. "The Two Sociologies," British Journal of Sociology, 2(2): 207-18. 1970.

Deutscher, I. What We Say/What We Do: Sentiments and Acts. Glenview, Illinois: Scott, Foresman, 1973.

Eldridge, J.E.T. (ed.) Max Weber: The Interpretation of Social Reality. London: Michael Joseph, 1971.

Filmer, P. et al. New Direction in Sociological Theory. London: Collier-Macmillan, 1972.

Greenfield, T.B. "Organizations as Social Inventions: Rethinking Assumptions About Change," Journal of Applied Behavioral Science, 9(5): 551-74, 1973.

Greenfield, T.B. "Theory in the Study of Organizations and Administrative Structures: A New Perspective." In M. Hughes (ed.) Educational Administration: International Challenges. London: Athlone, 1975 (forthcoming).

Greenfield, W.D. "Socialization Processes Among Administrative Candidates in Public Schools." Paper read at the American Educational Research Association, Washington, April, 1975.

Hanes, Carol E. and Jordan, K.F. "Factors Predicting Educational Productivity." Paper read at the American Educational Research Association, Washington, April, 1975.

Koehler, Virginia and Ismail, S. "Analysis of Staffing Patterns in School Districts." Presented at the American Educational Research Association, Washington, April 1975.

Kuhn, T. The Structure of Scientific Revolutions. Chicago: University of Chicago Press, 1970.

March, J.G. "Model Bias in Social Action." Review of Educational Research, 42(4): 413-29, 1972.

Mayntz, Renate. "The Study of Organizations," Current Sociology, 13(3): 95-155, 1964.

Pierce, D.R. Perceptions of Institutional Character. A Report on the Experimental Schools Evaluation Project. Tacoma, Washington: Northwest Regional Educational Laboratory, 1974.

Pinkus, J. "Incentives for Innovation in the Public Schools," Review of Educational Research, 44(1): 113-43, 1974.

Porter, R.D. "Dimensions of Teacher Militancy: A Factor Analysis of Teacher Attitudes." Paper read to the American Educational Research Association, Washington, April, 1975.

Ryan, Doris and Greenfield, T.B. The Class Size Question. Toronto: Ontario Institute for Studies in Education, 1975 (forthcoming).

Spady, W.G. "The Impact of School Resources on Students," in F.N. Kerlinger (ed), Review of Research in Education, No. 1, Itasca, Illinois, Peacock, 1973.

Young, M.F.D. (ed.) Knowledge and Control: New Direction for the Sociology of Education. London: Collier-Macmillan, 1971.